[1]The Johns Hopkins Hospital, Baltimore, MD, USA, [2]The Johns Hopkins Medical Institutions, Baltimore, MD, USA

OBJECTIVES: A pharmacy-based inpatient diabetes management program was evaluated to determine if improved glycemic control could be achieved in a general medicine patient population. **METHODS:** A retrospective chart review of 151 patients with blood glucose (BG) values outside the range 70-180 mg/dL was conducted. Observations for the baseline group (n=84) were derived from July 2010 and for the intervention group (n=67) in October 2010. The odds of poor glycemic control for patients in the intervention versus baseline groups were assessed by multivariate generalized estimating equations. These methods were also used to assess patient characteristics associated with poor glycemic control. **RESULTS:** Across all patients, no evidence was observed indicating the pharmacy program decreased the proportion of days spent out of the targeted blood glucose range [70-180 mg/dL: OR 0.91 (95% CI: 0.83 – 1.02); 70-250 mg/dL: OR 1.03 (95% CI: 0.88 – 1.24)]. However, the subgroup of patients whose admission blood glucose was less than 200 mg/dL (55% of intervention group) experienced a significant reduction in days out of range for both ranges [70-180 mg/dL (OR: 0.72, 95% CI: 0.61– 0.88) and 70-250 mg/dL (OR: 0.5, 95% CI: 0.33 – 0.71)]. No improvement in glycemic control was observed in patients with an admission BG 200 mg/dL or greater. These patients had more disease- and social-related factors associated with poor glycemic control. **CONCLUSIONS:** A subpopulation, patients whose admission glucose was less than 200 mg/dL, experienced improvement in glycemic control in the pharmacy-based program. The remaining patients were generally more complicated from a disease-state and social perspective and experienced no improvement. These patients may require a more intense, multi-disciplinary approach that is better matched to the constellation of factors responsible for their condition.

PDB147

COMPLIANCE TO HEMOGLOBIN A1C TESTING RECOMMENDATIONS FOLLOWING INITIAL DIABETES DIAGNOSIS

Palmer LA[1], Hansen LG[2]

[1]Truven Health Analytics, Bethesda, MD, USA, [2]Truven Health Analytics, Northwood, NH, USA

OBJECTIVES: The hemoglobin A1c test (HbA1c) is the favored measure of glycemic control for patients with diabetes. Compliance to recommended testing continues to be a challenge. The current analysis evaluates how compliance to HbA1c testing varies based on initial HbA1c results. **METHODS:** Newly diagnosed patients with Type II diabetes were identified using the Truven Health MarketScan Lab Database (1/1/2010-10/31/2013). Continuous eligibility for the 6 months prior and 12 months following diagnosis were required for study inclusion. Patient cohorts were created based on first HbA1c test value (< 7.0% [controlled], ≥7.0% [uncontrolled]). Presence of a subsequent HbA1c test, including test result and time to test, were evaluated for these cohorts. **RESULTS:** A total of 133,011 patients met the study inclusion criteria; approximately 40% had evidence of an initial HbA1c test (n=33,616 with HbA1c < 7.0%; n=19,033 with HbA1c ≥7.0%). Approximately 64% (n=21,497) of controlled patients had a subsequent HbA1c test (86% with HbA1c <7.0%, 14% with HbA1c ≥7.0%); 91% (n=17,344) of uncontrolled patients had a subsequent HbA1c test (36% with HbA1c <7.0%, 64% with HbA1c ≥7.0%). Mean times (in days [d]) to subsequent HbA1c test (and result) were as follows: Among initially controlled patients: 231d (controlled) and 370d (uncontrolled); among initially uncontrolled patients: 238d (controlled) and 212d (uncontrolled). Mean time to HbA1c test was significantly longer for controlled patients with HbA1c ≥ 7.0% for subsequent test relative to controlled patients with HbA1c <7.0% and to uncontrolled patients with HbA1c ≥7.0% for subsequent tests. **CONCLUSIONS:** Compliance to recommended timing for HbA1c testing is suboptimal in the majority of patients regardless of initial glycemic control. Importance of regular HbA1c evaluation should continue to be part of patient education – particular for patients who may initial appear to have favorable glycemic control.

PDB148

COST-EFFECTIVENESS OF THEINTRODUCTION OF A NATIONAL ADHERENCE PROGRAM FOR TYPE 2 DIABETES IN HUNGARY

Zsólyom A[1], Nagy B[1], Nagyjánosi L[2], Dessewffy Z[3], Steiner T[4], Kaló Z[5], Vokó Z[1]

[1]Eötvös Loránd University, Budapest, Hungary, [2]University of Debrecen, Debrecen, Hungary, [3]Novartis Hungary, Budapest, Hungary, [4]St. John's Hospital and North-Buda United Institutions, Budapest, Hungary, [5]Eötvös Loránd University (ELTE), Budapest, Hungary

OBJECTIVES: The Syreon health economic model was developed to predict long term effects of screening, treatment and control of type 2 diabetes, by taking into account baseline patient characteristics, history of complications, changes in physiological parameters, diabetes treatment and management strategies and screening programs. The aim of this analysis was to assess the cost-effectiveness of introducing a national public health program in Hungary to improve diabetes patient's adherence in comparison to not introducing the program. **METHODS:** According to the guideline of the Hungarian National Diabetes Association, the target HbA1c level is below 7%, except for special cases, where it is 8% or less. Without an organized patient education program 45% of the patients with known diabetes have higher than the target HbA1c level. In the studied scenario, the education program improves the patient adherence by 30% and increases the proportion of diabetic patients achieving the target HbA1c level to 72%. Patients reaching the target HbA1c level fully enjoy the benefits of efficient treatment. Non-adherent patients have higher HbA1c levels and face higher risk for diabetes-related complications, e. g. stroke, neuropathy or retinopathy. **RESULTS:** The Syreon diabetes model is capable of analyzing the consequences of introducing the adherence program for patients with diagnosed diabetes. The results of the cost-effectiveness analysis were sensitive to the starting age of the target population and the effectiveness of the training program. **CONCLUSIONS:** Organized patient education program was predicted to be cost-effective compared with no program in Hungary. The education program contributes to better patient adherence resulting in better health and less disease related complications.

PDB149

WHICH NEWLY-DIAGNOSED DIABETICS SHOULD RECEIVE DIETARY COUNSELING SERVICES? ESTIMATING INDIVIDUALIZED TREATMENT ALLOCATIONS THAT OPTIMIZE COST-EFFECTIVENESS IN REAL-WORLD DATA

Signorovitch J[1], Betts KA[1], Meng X[1], Zhuo Y[2], Wu EQ[1], Shi L[3]

[1]Analysis Group, Inc., Boston, MA, USA, [2]MIT, Cambridge, MA, USA, [3]Tulane University, New Orleans, LA, USA

OBJECTIVES: All people with type 2 diabetes should receive dietary advice. Some patients may benefit from additional dietary counseling. This study used recently developed statistical methods to estimate the efficiency frontier for individualized allocation of dietary counseling services. I. e., for each level of total health care expenditure, we estimate the individualized allocation of services that maximizes clinical benefit in the population. **METHODS:** People newly diagnosed with type 2 diabetes were identified retrospectively from electronic health records and classified as receiving vs. not receiving dietary counseling. An individualized effectiveness score for achievement of HbA1c < 7% with vs. without counseling was estimated using multivariable logistic regression. Demographics, vitals, comorbidities and lab values served as candidate predictors. Prediction models were validated in a held-out sample. The efficiency frontier was estimated as the convex hull of the set of HbA1c control rates and total costs achievable by allocation of dietary counseling based on the effectiveness score. **RESULTS:** Among 11,819 patients newly diagnosed with type 2 diabetes, 22% received dietary counseling and 74% achieved HbA1c control. Greater HbA1c, body mass index and age at the time of diagnosis were associated with greater effectiveness of dietary counseling. Allocation of all newly diagnosed diabetics to dietary counseling was estimated to increase the rate of HbA1c control to 80% at a cost of 56 USD per patient vs. current practice. An efficient allocation rule (counseling only the 55% of patients predicted to benefit most) achieved the same 80% control rate with an incremental cost of 6 USD per patient. **CONCLUSIONS:** Retrospective analysis of real-world data identified opportunities to improve diabetes outcomes vs. current practice with minimal expense through individualized allocation of dietary counseling. This result warrants validation in separate data. The analytical methods warrant broader use to investigate efficient allocation of treatments.

PDB150

CHRONIC CARE MANAGEMENT

Gajdos O, Jurickova I

Czech Technical University in Prague, Kladno, Czech Republic

OBJECTIVES: Chronic illness is a prolonging health defect, which is causing a big use of financial means for its medical care. These means are not being coordinated and used effectively. The aim of this study was to suggest a management care system of the chronically ill in the Czech Republic, which should increase the quality of medical care and decrease the costs of it. **METHODS:** There was chosen an appropriate diagnosis and concept for the management care, which were based on analysis of the current state. The type 2 diabetes mellitus was chosen as an appropriate chronic illness and for the management care concept was chosen Patient-Centered Medical Home.. The randomized selection of 100 patients was made in ordinary diabetes ambulance. The cost of illness was counted from the direct costs from the perspective of the society, of the payer and of the patient. The cost effectiveness analysis, which was comparing a standard treatment and chosen concept, was based on randomized selection, studies of Patient-Centered Medical Home and recommended standards of professional society. There were also used methods of value engineering especially Saaty matrix and multi-criteria decision making, mainly TOPSIS method for setting the scales of criteria and effect. **RESULTS:** The average costs of one patient are from the perspective of the society 29 531 CZK, the payer 20 976 CZK and of the patient 9 196 CZK. The Patient–Centered Medical Home has taken the first place in comparison with a standard treatment, which was based on the cost of effectiveness analysis. The payer will obtain a 25.7×10^{-5} of the effect for Patient-Centered Medical Home according a spent monetary unit. **CONCLUSIONS:** The costs of the chosen concept can be more effective. The concept would provide greater prevention, quality and coordinated care and can be used for other chronic diseases.

PDB151

A COMPARATIVE ANALYSIS ON THE REIMBURSEMENT STATUS OF SENSOR AUGMENTED PUMP THERAPY IN TURKEY AND OTHER SELECTED COUNTRIES

Seyhun O, Erdol S, Can H, Erdogan E

Medtronic, Inc., Istanbul, Turkey

OBJECTIVES: Sensor augmented therapy (SAP) with automated insulin suspension is the most advanced technology for the treatment of severe and moderate hypoglisemia in patients with type 1 diabetes mellitus. In order to sustain a better uptake of sensor augmented therapy for patients, it is crucial for this technology to be included in the reimbursement scheme of Turkey and in the other countries. Thus, we aimed to study and analyze reimbursement status of this technology in Turkey and across other selected countries of Western Asia, North America and Western Pacific. **METHODS:** Mainly official web resources such as health authority web pages, direct contact with authority responsibles and published articles on SAP are utilized. **RESULTS:** Most of the countries examined have either reimbursement or limited status of SAP. European countries such as Ireland, The Netherlands, Sweden, Estonia, Czech Republic; Israel in Western Asia, Japan in Western Pacific and USA are the ones where this technology is reimbursed mainly for patients with Type 1 Diabetes. Within these selected countries, Turkey has a position of having reasonably well defined reimbursement status for SAP despite insufficient number of sensors reimbursed - 2 sensors instead of 5 sensors a month; which potentially causes an incomplete therapy for the patients. **CONCLUSIONS:** Despite the operational hurdles and insufficient number of sensors reimbursed per patient in Turkey, the country still stands as a successful example of reimbursement practice, by making this technology available for the indicated patients.